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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/534,972 | 12/20/2005 | Torsten Pechstein | PECH3003/FJD | 1719 |
| 23364 7590 01/10/2008 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314 | | | EXAMINER HE, AMY | |
| | | | ART UNIT 2858 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary

Application No.

10/534,972

Applicant(s)

PECHSTEIN ET AL.

Examiner

Amy He

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-18 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 19-20 and 24-26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 14, 16, 19, 20 and 21 are objected to because of the following informalities:
 - 1) In claim 14, the following preamble of the claim is suggested: “a method for monitoring a reference half cell of a measuring point for determining and monitoring an ion concentration of a medium, said measuring point also including a measuring half cell, the ion concentration of the medium being determined on the basis of at least one measurement signal determined between the measuring half cell and the reference half cell, the method comprising the steps of:”
 - 2) In claim 14, line 2, the use of “and/or” is objected to, replace with --and-- or --or--.
 - 3) In claim 16, line 2, "the measuring circuit" lacks antecedent basis.
 - 4) In claim 19 (lines 4-5) and claim 24 (line 2), "the relationship" lacks antecedent basis, replace with --a relationship--.
 - 5) In claim 20, line 3, "the measurement components" lacks antecedent basis, replace with --the measurement signals--.

6) In claim 21, line 2, the use of "and/or" is objected to, replace with --and-- or --or--

7) In claim 21 (lines 7, 9 and 11), claim 23 (line 4), claim 24 (line 2), claim 25 (line 2), and claim 26 (line 2), the use of "/" in "control/evaluation unit" is objected to, replace with --control and evaluation unit-- or --control or evaluation unit--.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14-18 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Beijk et al. (U. S. Patent No. 4, 777,444).

As for claim 14, Beijk et al. discloses (see the Figure; also see col. 3, line 65-col. 4, line 23, and col. 4, line 67-col. 5, line 30) a method for monitoring a reference half cell (3) of a measuring point for determining and monitoring an ion concentration of a medium, said measuring point also including a measuring half cell (4), and the ion concentration of the medium being determined on the basis of at least one measurement signal determined between

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the measuring half cell and the reference half cell (col. 4, lines 18-20), the method comprising the steps of:

intermittently operating the measuring point in an operating mode and in a test mode (the measuring point is switched from a measurement or operating mode to a test mode, see col. 3, line 65-col. 4, line 23, and col. 4, line 67-col.5, line 30);

measuring the ion concentration in the operating mode(col. 3, line 65-col. 4, line 23); and
checking the proper functioning of the reference half cell (3) in the test mode(col. 4, line 67-col. 5, line 30).

As for claim 15, Beijck et al. discloses determining the noise component of the measurement signal in the test mode and in the operating mode (by switching the switches 9, 10, 20 and 24, noise due to soiling or coating of the electrodes, see col. 3, line 65-col. 4, line 23, and col. 4, line 67-col. 5, line 30).

As for claim 16, Beijck et al. discloses that activating (using switch 20 and 24) an impedance (21) in the test mode in the measuring circuit for determining the noise component; and changing the impedance (21) in the operating mode.

As for claim 17, Beijck et al. discloses that an impedance-changing element (switch 20, 24) is activated for the purpose of changing the impedance (21).

As for claim 18, Beijck et al. discloses a switch (switch 24) is actuated as the impedance changing element, which is connected in parallel with the impedance (21) for the purpose of changing the impedance.

As for claim 21, Beijck et al. discloses (see the Figure; also see col. 3, line 65-col. 4, line 23, and col. 4, line 67-col. 5, line 30) an apparatus for monitoring a reference half cell (3) of a

measuring point for determining and/or monitoring an ion concentration of a medium, said measuring point also including a measuring half cell (4), the apparatus comprising:

said measuring point (see the Figure); a measuring circuit located between the measuring half cell (4) and the reference half cell (3); and

a control/evaluation unit, which determines the ion concentration of the medium on the basis of a measurement signal determined in said measuring circuit (col. 4, lines 18-20), wherein:

said control/evaluation unit operates the measuring point intermittently in an operating mode (the measurement mode, col. 3, line 65-col. 4, line 23) and in a test mode (test mode, col. 4, line 66-col. 5, line 30); and

said control/evaluation unit determines the ion concentration of the medium in the operating mode and checks the proper functioning of the reference half cell (3) in the test mode (see col. 3, line 65-col. 4, line 23, and col. 4, line 67-col. 5, line 30).

As for claim 22, Beijck et al. discloses that in said measuring circuit, an impedance (21 or 11) is provided, which is changed, preferably short-circuited, in the operating mode and is added into said measuring circuit in the test mode.

As for claim 23, Beijck et al. discloses an impedance changing element (switch 24 or 10), which is connected in parallel with the impedance (21 or 11); and said impedance changing element (switch 24 or 10) is actuated by said evaluation/control unit.

Allowable Subject Matter

3. Claims 19-20 and 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gehrke et al. (U. S. Patent No. 6,853,195) discloses a device for measuring ion concentration, comprising a measurement electrode, a reference electrode and a comparison electrode. The device compensates for the noise potential arising between the comparison electrode and the measurement electrode.

Endou et al. (U. S. Patent No. 4,853,638) discloses an apparatus and method for measuring electrical conductivity used in a water quality control.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy He whose telephone number is (571) 272-2230. The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Amy He
Phone: (571) 272-2230
Fax: (571) 273-2230
January 5, 2008.

A handwritten signature in black ink, appearing to read 'Amy He', is positioned to the right of the examiner's contact information.